DOCUMENT RESUME

ED 169 454 CG 013 401

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TITLE A Longitudinal Study of the Effects of a University Human Sexuality Course on Sexual Attitudes.
PUB DATE 27 Feb 78
NOTE 33p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Affective Objectives; *Changing Attitudes; *College Students; Higher Education; Humanistic Education; *Longitudinal Studies; Moral Values; Sex Differences; *Sexuality; *Student Attitudes

ABSTRACT

A comparison of sexual attitudes was made between 127 human sexuality class students and 114 control class students at the University of Northern Iowa at the beginning of class (pretest), the end of class, (posttest), and two years after the end of class (follow-up). The pretest displayed no differences between the treatment and control groups on age, grade point average, political affiliation, religion, marital status, university classification, or sexual attitudes. Differences in sexual attitudes between the two groups developed on the posttest and the follow-up test. Human sexuality students presented steadily more accepting attitudes from pretest to posttest to follow-up and became steadily more accepting of behaviors for others than for self. Control group students generally showed no change in attitudes from pretest to posttest, developed less accepting of behaviors for others than for self. In both groups, males had more accepting sexual attitudes than females and summer session students had more accepting sexual attitudes than fall semester students on the pretest, posttest, and follow-up. (Author)

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A LONGITUDINAL STUDY OF THE EFFECTS OF A UNIVERSITY HUMAN SEXUALITY COURSE ON SEXUAL ATTITUDES

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February 27, 1978

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Key Words:

Sexual attitudes
Attitude change
Human Sexuality Course
Longitudinal study

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A LONGITUDINAL STUDY OF THE EFFECTS OF A UNIVERSITY HUMAN SEXUALITY COURSE ON SEXUAL ATTITUDES

Several studies have shown that sexuality is a crucial issue for young men and women during the adolescent and college years. They conclude that human sexuality courses during these years can make a valuable contribution to students' personal development (The College Subcommittee, 1974; Hurster, 1970; Giroux & Bicknell, 1973; Juasky, 1972).

Educators agree that the affective component of attitudes and values needs to be included in any curriculum (Rubin, 1974; Eisner, 1974). Treffinger et al., (1976) compiled an extensive bibliography of techniques and resources for encouraging affective development, and Fleck (1975) emphasized that affective objectives need to be stressed more in teaching.

Affective objectives are both important and controversial in human sexuality courses. Burchell's (1975) study showed that positive accepting attitudes toward the self are essential to creating good sexual relationships. While a few persons' fears of attitudes and values being taught have apparently curtailed some sex education programs (Cook, 1972), Wilson (1975) did not find a prevelance of a "fun morality" regarding sex in his study of the distribution of selected sexual attitudes among adults in the United States. Similarly, Conley and O'Rourke (1973) noted that most students in their college sample did not hold extreme liberal views regarding sexuality.

All human sexuality courses described in the literature include an affective component. Some studies evaluate the effects of a human sexuality course on college students' attitudes toward sexuality (Redfering & Roberts, 1976; Lance, 1975; Rees & Zimmerman, 1974). Other research deals

mainly with changes in sexual attitudes of nursing students as a result of a human sexuality course (Mims et al., 1974; Mandetta & Woods, 1974; Woods & Mandetta, 1975a & 1975b). Two studies include assessment of the affective component of human sexuality courses in medical schools (Marcotte & Kilpatrick, 1974; Alzate, 1974). Held and his associates (1975) focused on the effects of sexual attitude reassessment workshops on spinal cord injured adults, their partners, and rehabilitation professionals.

Research results are in conflict on whether or not a person's sex effects sexual attitude change. In a national probability sample of 2,486 adults, males were found to hold more liberal sexual attitudes than females (Wilson, 1975). A sampling of 221 University of Illinois students revealed that sexual attitudes between men and women are usually momogeneous (Conley & O'Rourke, 1973). Others believe college men and women both adopt more liberal attitudes which move toward a convergence on selected issues like marriage and the family (Whatley & Appel, 1973).

Research results are also in conflict on whether course instruction in human sexuality changes sexual attitudes. Most research evaluating effects of human sexuality courses has reported students' sexual attitudes become more liberal or accepting (Hurster, 1970; Redfering & Roberts, 1976; Marcotte & Kilpatrick, 1974; Alzate, 1974; Held et al., 1975). However, Steinmann and Jurich (1975) found sexual attitude change only in males and not in females. Lance (1975) reported attitudes toward some topics became more liberal while attitudes toward extramarital sex became more conservative. Woods and Mandetta (1975a, 1975b) found no sexual attitude change (Mandetta & Woods, 1974). One factor which may explain the difference in findings among these studies is whether or not data collected distinguished

between subjects' attitudes toward sexual behaviors for themselves as opposed to others. The studies finding limited or no difference did not make this distinction.

Several other factors besides sex of the person and course instruction have been identified as effecting sexual attitude change. These factors are: (1) age (Wilson, 1975), (2) education level (Hurster 1970; Wilson, 1975), (3) marital status (Lance, 1975), (4) political orientation (Woods & Mandetta, 1975a), (5) religious preference (Athanasiou, 1970), (6) personality characteristics (Redfering & Roberts, 1976), and (7) nudism (Story, 1978). The diversity of these factors emphasize the importance of examining a broad range of variables when sexual attitude change is being assessed.

No longitudinal studies were found on the effects of human sexuality courses on sexual attitudes. However, Youngs cited the need for researchers to do long range studies to better evaluate the effectiveness of sex education programs (Youngs, 1970, p. 33), and Tyler (1969, p. 26) stated that usually basic attitudes are not significantly changed by one, two , three, or four months of instruction which is the range of length of most college courses. Ringness (1975) further emphasized that affective learning has been slighted because of the frequently slow attainment of affective objectives which are usually developed over time and difficult to evaluate. Woods and Mandetta (1975b, p. 15) concluded that although sexual attitude change was not an immediate outcome of their course, perhaps attitudes would change on a long-term basis. It is the purpose of this research to do a controlled two year longitudinal follow-up study of the effects on student sexual attitudes of the interactions of a broad range of vari-

ables with instruction in a university human sexuality course.

Course Descriptions

The Human Relationships and Sexuality Course was initiated in 1971 and became part of the general education curriculum at University of Northern Iowa in 1972. All the approximately 10,000 undergraduate students at the university must choose 6 to 14 semester hours from a specified list of courses in the category including communications, other cultures, individual studies, and the Human Relationships and Sexuality Course. Therefore, there is a potential for a cross-section of university students enrolling in the course. It is an underdivision course with each section limited to around 30 students. However, since the course is very much in demand and students register according to seniority, the classes usually fill with upper division students.

Course goals include: 1. to provide accurate information regarding human sexuality, 2. to dispell myths and inaccurate sexual information, 3. to help students define and accept, without threat, their own as well as other forms of human sexuality, 4. to stimulate an awareness in students of the role of human sexual behavior in human relationships along the entire life span and 5. to provide a setting where students can develop communication skills and self awareness by freely discussing human sexuality in an atmosphere which is accepting and nonjudgmental.

The class meets for 48 total hours, either three hours a week over a sixteen week semester period or twelve hours a week over a four week summer session period. Methods include lecture/discussion, a variety of audio/visual presentations, both professional and personal experience guest resource people, and continuing small group discussion experiences.

The Human Communications Course was chosen as a comparison/control class because it appeared to have more similarities with the Human Relationships and Sexuality Course than did other general education courses. It stresses communication skills and value clarification as does the Human Relationships and Sexuality Course and is a choice in the same category of general education so could be expected to draw the same cross-section of the university population. Both are underdivision courses attracting mainly upper division students and both have approximately the same number and spread of class hours, the same class size, and the same ratio of males to females. During the summer session and fall semester in which classes were used for this study, both courses had the same number of class sections offered.

Subjects

Data for this study was collected from students in one summer session section and three fall semester sections of the Human Relationships and Sexuality Course at University of Northern Iowa (hereafter referred to as treatment group) and from students in one summer session section and three fall semester sections of the Human Communications Course at University of Northern Iowa (hereafter referred to as control group). The treatment group originally contained 133 students (77 females and 56 males) while the control group numbered 118 students (74 females and 44 males). One male and two females from the treatment group dropped the course during the semester while two males and one female from the group had taken or later took the Human Communications Course. Similarly, one female from the control group dropped the course during the semester while three females from the group later took the Human Relationships and Sex-

uality Course. All these people who dropped their group's course or took both courses were eliminated from the sample, leaving a treatment group of 127 (74 females and 53 males) and a control group of 114 (70 females and 44 males). Pretest scores of those eliminated were not significantly different from the mean pretest scores of their group.

Mean ages and grade point averages of the treatment and control groups were compared by t tests and no differences were found. Using Chi Square tests, no differences were found between the two groups on political affiliation (Democrat, Republican or Independent), religious affiliation (catholic, protestant, other, none), marital status (single, married, divorced, or widowed) or class (freshman, sophomore, junior, or senior). Eighty-six percent of the treatment group and eighty-four percent of the control group were seniors and the variables of age, grade point average, and marital status for each group did not differ significantly from the overall university senior profile on these variables. No overall university profile was available for political or religious affiliation. However, in both the control and the treatment group, there were differences in age, grade point average, and marital status between summer session and fall semester students with the summer students being older ($p < .01$), having higher grade point averages ($p < .05$), and more likely to be married ($p < .05$). No differences in class were found between summer session and fall semester students. The direction and level of differences between summer session and fall semester students hold true for all university seniors with respect to age and marital status but not grade point average. Many seniors with lower grade point averages who attend summer session retake failed courses in their major needed for graduation. This may cause

non-major summer session courses to have comparatively more seniors with higher grade point averages.

Questionnaire

A Likert-type sexual attitude scale was constructed to allow subjects to describe their emotional reactions to the idea of themselves or others participating in certain categories of sexual behaviors. The five described points on the scale were:

1. I feel great about it
2. I feel comfortable about it
3. I feel neutral about it
4. I feel uncomfortable about it
5. I feel repulsed by it

The twelve categories of sexual behaviors were:

1. using masturbation as a form of sexual outlet
2. mutual masturbation with someone of the opposite sex
3. mutual masturbation with someone of the same sex
4. sexual intercourse with someone of the opposite sex
5. oral-genital stimulation with someone of the opposite sex
6. oral-genital stimulation with someone of the same sex
7. engaging in sex with your partner in the presence of others
8. three or more people engaging in intercourse and other sexual activity together
9. maintaining more than one sexual relationship at a given time
10. the woman in a heterosexual relationship being the more aggressive partner at times
11. using erotica (erotic literature, pictures, films, live sex

shows) to stimulate sexual arousal

12. intercourse during the menstrual flow

Subjects used the Likert-type sexual attitude scale to indicate feelings about each of the twelve categories of sexual behaviors for themselves and for others (24 items). The questionnaire for data collection in this study was comprised of these 24 items plus selected demographic data questions and an agree/disagree issue question, "abortion is an acceptable means of terminating an unwanted pregnancy".

The questionnaire was reviewed by four human relationships and sexuality instructors and pilot tested with a spring semester class of 34 human relationships and sexuality students. Comments from the instructor reviews and the pilot testing indicated the questionnaire to be clearly written and to have content validity. A retest two weeks after the original pilot test yielded a test/retest reliability coefficient of .90.

Data Collection Methods

The questionnaire was administered to subjects as a pretest on the first day of class and as a posttest on the last day of class, during regular class sessions. Students not present on the first class day completed the questionnaire on the first day they attended class. Students missing the last class day answered the questionnaire during the final examination time.

The questionnaire, along with a stamped, addressed returned envelope, was mailed to all subjects two years after the end of their class to obtain two year follow-up data. These questionnaires were coded solely for the purpose of following up nonrespondents. Through the use of one follow-up letter and then telephone calls from the researcher and the university

alumni office staff to those still not responding, one hundred percent returns were achieved. No names were used on any of the pre, post or follow-up questionnaires, and subjects were assured confidentiality of responses.

Results

Analyses of variance were done to determine the relationship between sexual attitude ratings on each of the twelve sexual behaviors for self and for others and 1. class subject attended (treatment or control group) 2. sex of subject (female or male) and 3. term in which subject took the class (summer or fall), pre, post and two years after the class. There was no difference between pretest ratings of the treatment and control groups for any behavior category (Tables 1 and 2 - see questionnaire section for listing of twelve sexual behavior categories), an indication that both groups may represent a random sample of the same population. However, posttest differences between treatment and control groups existed on 11 of the 12 categories of sexual behaviors for others (all but number 10) and on 7 of the 12 sexual behaviors for self (numbers 1,2,4,5, 10,11,12) (p range from $<.05$ to $<.001$) with the treatment group being more accepting than the control group (Tables 1 and 2). After two years, the increased acceptance of the treatment group compared with the control group is even more pronounced with the difference on all items being significant, most at the $p <.001$ level (Tables 1 and 2).

Insert Tables 1 and 2

Breakdowns of attitude ratings on each category of behaviors pre,

post, and two years after the class within the treatment group and within the control group help to illustrate more specifically where differences occured (Tables 3 and 4). A comparison of pretest and two year follow-up attitude ratings of the treatment group for each of the categories for self and for others shows the treatment group became more accepting in all categories for self and for others (p range from $<.05$ to $<.001$). In contrast, a comparison of pretest and two year follow-up ratings of the control group shows less acceptance in two categories for self (numbers 4 and 10; $p < .05$) and in seven categories for others (numbers 1,3,4,5,6,8, and 9; p range from $<.05$ to $<.001$). Control group ratings for the other categories did not differ between pretest and two year follow-up.

In comparing pre and post attitude ratings of the treatment group, the posttest ratings were more accepting for seven of the twelve sexual behaviors for self (numbers 1,2,4,5,7,11, and 12; p range from $<.05$ to $<.001$) and for ten of the twelve for others (all but numbers 4 and 10; p range from $<.05$ to $<.001$). The categories in which there were no change of attitude for self were generally the behaviors which have less positive social sanction. In the control group, there was no difference between pre and post attitude ratings for any category of sexual behavior for self and for nine of the twelve categories for others. The ratings for three categories for others became less accepting (numbers 1,4, and 6; p range from $<.05$ to $<.01$).

Comparing treatment group post and two year follow-up ratings, the group became more accepting of five of the twelve categories of sexual behaviors for self (numbers 1,7,9,11, and 12; p range from $<.05$ to $<.025$) and eleven of the twelve categories for others (p range from $<.05$ to $<.001$).

The only category of sexual behavior for others showing no change was 4. sexual intercourse with someone of the opposite sex. This category already had a low mean rating (high acceptance) on the pretest. While there was a pre/follow-up difference ($p < .001$), the posttest and follow-up means showed a trend toward increased acceptance but not a statistical difference in comparing pre/post or post/follow-up scores. In the control group, a comparison of post and two year follow-up attitude ratings showed no difference in any category of sexual behavior for self. However, the control group was less accepting of three categories of sexual behavior for others (numbers 3,6, and 8; p range from $< .05$ to $< .01$) two years after the class compared to the posttest.

Insert Tables 3 and 4

Differences between mean rating scores of the twelve categories of sexual behaviors were found within treatment group, within control group, within male group, within female group, within summer session group and within fall semester group, pre, post, and follow-up using analysis of covariance ($p < .001$). In comparing mean ratings, heterosexual intercourse was most accepted by all groups while homosexual oral/genital behavior was least accepted. These behaviors maintained their relative degrees of acceptance through the pre, post, and follow-up ratings for all groups.

Both the treatment and the control group tended to be more accepting of each of the categories of sexual behaviors for others than for self on the pretest, but none of these differences between ratings for self and for others were statistically significant. However, while the treat-

ment group became even more accepting of each category of sexual behavior for others compared to it for self on the post and follow-up tests, the control group tended to become less accepting of each category of sexual behavior for others compared to it for self. By the time of the follow-up, the control group mean on three of the twelve categories was actually higher (less accepting) for others than for self (numbers 2,4,5,). None of these comparisons between control group mean attitude ratings of a behavior for self and for others reached statistical significance. The follow-up treatment group t test of differences between mean ratings of behavior categories 1,3,6,7,8,9,11 and 12 for self and for others were all significant (p range from $<.05$ to $<.001$). Categories 2,4,5, and 10 are generally more accepted heterosexual behaviors and received high treatment group attitude ratings for self as well as for others.

The t tests showed no difference between the pretest attitude ratings of any of the twelve categories of sexual behaviors for self or for others between males in the treatment group and in the control group or between females in the treatment group and in the control group. However, using analysis of variance, there were several differences between the attitude ratings of males and females pre, post, and two years after the class (p range from $<.05$ to $<.001$) with males being more accepting than females (Tables 5 and 6). Males were consistently more accepting than females pre, post, and two years after the class of categories 1,5,7,8, and 9 for self and of categories 5,7, and 8 for others ($p < .001$). For categories 2,4, and 6 for self and category 2 for others, the pretest ratings showed males more accepting than females (p range from $<.02$ to $<.001$), but this difference had decreased by the posttest (p range from NS to $<.01$) and de-

creased even further two years after the class (p range from NS to <.05). Pre, post and two year follow-up attitude rating means for males and females on these categories indicate the changes were due to a greater acceptance of these behaviors by females rather than less accepting by males. Males were more accepting on category 1 for others, but the difference between males and females decreased from pretest (p <.01) to posttest (p <.02) and then increased from posttest to two years after the class (p <.001). The male and female attitude ratings on this category suggest the posttest decrease was due to slightly higher female acceptance and slightly lower male acceptance. The two year follow-up increase was due to higher male acceptance rather than lower female acceptance. Differences between male and female attitude ratings on categories 9 and 11 for others and category 11 for self consistently increased from pretest (p range from NS to <.005) to posttest (p range from <.02 to <.001) to the two year follow-up (p <.001) with males being more accepting than females. Pre, post and two year follow-up attitude rating means for males and females on these categories indicate the changes were due to a greater acceptance of these behaviors by males and slightly less acceptance of them by females. There was no difference between male and female attitude ratings pre, post, or two years after the class for categories 3,4,6,10, and 12 for others and categories 3,10, and 12 for self.

Insert Tables 5 and 6

A further breakdown of the sex classification factor showed that attitude rating differences between males and females within the treatment

group, within the control group, within the summer session group and within the fall semester group were at the same significance levels as the overall attitude rating difference between males and females on each behavior category for self and for others, pre, post, and follow-up. Even though students who took the Human Relationships and Sexuality Course generally developed more accepting attitudes toward sexual behaviors than students in the control class, differences between male and female attitudes continued regardless of whether or not students had had the human sexuality course. Similarly, even though summer session students generally developed more accepting attitudes than fall semester students on some categories of sexual behaviors, differences between male and female attitudes continued regardless of which school session students attended.

Using t tests to compare the difference between pretest attitude ratings of each of the twelve categories of sexual behaviors for self and for others between summer session students in the treatment and control groups and between fall semester students in the treatment and control groups, no differences were found. However, using analysis of variance, there were some differences between the attitude ratings of summer session and fall semester students with summer session students being more accepting (Tables 7 and 8). These differences generally increased from pre, to post, to the two year follow-up. On the pretest, there was no difference between summer session and fall semester student attitude ratings of any category of sexual behavior for others; but summer session students were more accepting of the categories for self of 2. [mutual masturbation with someone of the opposite sex ($p < .01$)] and 4. [sexual intercourse with someone of the opposite sex ($p < .001$)]. These differences

may be directly related to the summer session groups being older ($p < .01$) and containing more married students ($p < .05$) than the fall semester groups. The attitude rating difference for category 2 for self decreased posttest ($p < .05$) and disappeared in the two year follow-up. Similarly, the attitude rating difference for category 4 for self decreased in the posttest ($p < .005$) and further decreased in the two year follow-up ($p < .01$). However, category 10 for self and categories 1,3, and 12 for others showed differences in attitude ratings between summer session and fall semester students by the time of the posttest (p range from $< .02$ to $< .005$). Two years after the class, three categories of sexual behaviors for self (numbers 4,8, and 10) and seven categories of sexual behaviors for others (numbers 1,2,3,6,7,9, and 12) showed differences (p range from $< .05$ to $< .001$) with summer session students being more accepting than fall semester students in each case.

Insert Tables 7 and 8

A further breakdown of the school session factor showed that the attitude rating differences between summer session and fall semester students within the treatment group, within the control group, within the male group, and within the female group were at the same significance levels as the overall rating difference between summer session and fall semester students on each behavior for self and for others, pre, post, and follow-up. Regardless of exposure to the Human Relationships and Sexuality Course or sex of subjects, summer session students (who were more likely to be older, married, and to have a higher grade point average) developed more

accepting attitudes than fall semester students (who were more likely to be younger, single, and to have a lower grade point average).

Chi Square Tests were done to determine the relationships between agreement or disagreement with the issue statement, "abortion is an acceptable means of terminating an unwanted pregnancy", and 1. class subject attended (treatment or control), 2. sex of the subject (male or female), and 3. term in which subject took the class (summer or fall), pre, post, and two years after the class. No relationship was found between any of the three factors and pretest or posttest scores, and no relationship was found between sex or term and follow-up scores. However, there was a difference between treatment and control group scores on the two year follow-up ($p < .001$). A further Chi Square breakdown of the agreement/disagreement scores, pre, post, and two years after the class within the treatment group and within the control group showed that the overall follow-up class difference was due to higher control group disagreement ($p < .001$). The treatment group showed no difference in response when comparing pre to follow-up, pre to post, and post to follow-up. The control group showed no difference on responses when comparing pre to post. However, there were differences in control group responses when comparing pre to follow-up ($p < .001$) and post to follow-up ($p < .001$) with the control group becoming more negative toward abortion two years after the class.

Discussion and Conclusions

The results of this study add a new perspective to research on the effects of human sexuality courses on sexual attitudes because they suggest important patterns of attitude changes over a longer period of time. The steadily more accepting attitudes of the treatment group pretest to post-

test to two year follow-up test support the positions of Tyler (1969) and Ringness (1975) that basic attitudes usually develop over a long period of time. It is unclear why the control group developed less accepting attitudes posttest to two year follow-up. Without the mediating effects of a human sexuality course, they may have been more influenced by mores of the communities where they lived two years after the class which may have been more restricting than those of the university community. A similar reason may account for the control group becoming more negative toward abortion two years after the class as compared to the posttest. In contrast, the treatment group showed no change in attitude toward abortion pretest to posttest to two year follow-up. This may be an indication that the course instruction did not bias students one direction or another on the issue but gave them a factual basis and an opportunity to examine their beliefs so that they did not change later in response to pressures outside the university community.

The results of this study agreed with those of Wilson (1975) and of Conley and O'Rourke (1973) in that students did not usually hold extreme liberal views regarding sexual behavior. Heterosexual intercourse was consistently the most accepted behavior while homosexual oral-genital behavior was the least accepted. In this study, as in previous ones reported in the literature, a course in human sexuality did not result in most students adopting extremely liberal views of sexual behavior for themselves.

The fact that the treatment group became steadily more accepting of behaviors for others than for self pretest to posttest to two year follow-up while the control group tended to become less accepting of be-

haviors for others than for self has important implications. If this increasing acceptance over time of a wide range of sexual behaviors for others is a consistent result of instruction in human sexuality, then human sexuality courses would be valuable preparation for all who must work objectively and comfortably with people who practice a wide variety of sexual behaviors. Further research is needed to appropriately generalize this finding.

Similar to the conclusions of Wilson (1975) and of Steinmann and Jurich (1975) and in contradiction to the findings of Conley and O'Rourke (1973) and Whatley and Appel (1973), males in this study were found to have generally more accepting sexual attitudes than females. These results appear to support the belief that a double standard of sexual behavior for men compared to women still exists, at least among students of one midwest state university.

Students who took a one month summer session (and who were more likely to be older, married, and to have a higher grade point average) generally had more accepting attitudes than students who took a four month fall session. These results could indicate that factors of age, marital status and grade point average are more important to attitude change than the length of time spent in a university course or that the interaction between these variables is important to attitude change. These results may also imply that a shorter, more intense session (12 hours a week for 4 weeks) is a more appropriate approach to teaching for attitude change than a longer less intense session (3 hours a week for 16 weeks). More controlled long range studies of the effects on student sexual attitudes of shorter, more intense sessions and longer, less intense sessions are needed to determine the most favorable format for teaching human sexuality.

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TABLE 1

Differences in Attitude Ratings of Sexual Behaviors for Self Between Treatment and Control Groups, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	.063	.062	35.775	***** 47.409	48.916	***** 51.684
2.	.093	.097	4.380	* 3.919	10.019	**** 10.158
3.	.732	.807	2.415	2.981	9.192	***** 10.571
4.	.000	.000	10.696	***** 15.319	13.128	***** 18.941
5.	.001	.001	12.473	***** 10.998	19.671	***** 19.922
6.	.008	.012	.410	.537	7.589	**** 9.951
7.	.214	.287	2.133	2.867	10.289	***** 11.166
8.	.084	.119	1.913	2.209	4.712	** 5.523
9.	.030	.028	2.766	2.557	14.091	***** 11.393
10.	.009	.011	5.332	*** 6.414	14.002	***** 18.706
11.	.324	.282	14.118	***** 11.757	35.778	***** 30.740
12.	.155	.127	6.281	** 5.423	23.275	***** 20.929

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .002$
***** $p < .001$

TABLE 2

Difference in Attitude Ratings of Sexual Behaviors for Others Between Treatment and Control Groups, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	.000	.000	19.087	18.212**	100.453	172.113**
2.	.037	.055	12.973	18.173**	36.853	62.799**
3.	.216	.173	21.616	19.378**	172.606	238.748**
4.	.031	.060	7.649	11.282**	26.530	49.245**
5.	.007	.008	19.794	23.459**	46.919	67.762**
6.	.090	.082	24.968	23.915**	180.616	298.550**
7.	.175	2.14	10.976	12.014**	136.840	191.247**
8.	.219	.254	16.215	17.202**	131.887	213.040**
9.	.005	.005	11.889	13.307**	79.389	110.635**
10.	.220	.264	2.791	3.410	16.434	27.098**
11.	.132	.162	14.644	15.728**	58.346	87.127**
12.	.003	.004	8.090	8.894*	48.468	69.998**

* $p < .003$
** $p < .001$

TABLE 3

Comparisons of Pre, Post, and Two Year Follow-Up Attitude Ratings of Sexual Behaviors for Self Within Treatment Group and Within Control Group

1-Pretest
2-Posttest
3-2 Year Follow-up
* $p < .05$
** $p < .025$
*** $p < .01$
**** $p < .005$
***** $p < .001$

Category of Sexual Behavior By Class	Pre/Follow-Up Differences					Pre/Post Differences					Post/Follow-Up Differences				
	M^1	M^3	SD^1	SD^3	F RATIO	M^1	M^2	SD^1	SD^2	F RATIO	M^2	M^3	SD^2	SD^3	F RATIO
1. Treatment Group	3.099	2.267	1.115	0.975	6.43*****	3.099	2.571	1.115	1.046	3.91*****	2.571	2.267	1.046	0.975	2.41**
Control Group	3.178	3.193	1.043	1.047	-0.11	3.178	3.158	1.043	1.069	0.14	3.158	3.193	1.069	1.047	-0.25
2. Treatment Group	2.267	1.855	1.036	1.009	8.26*****	2.267	1.961	1.036	1.123	2.28**	1.961	1.855	1.123	1.009	0.79
Control Group	2.254	2.272	0.989	0.989	-0.14	2.254	2.246	0.989	1.001	0.07	2.246	2.272	1.001	0.989	-0.20
3. Treatment Group	4.412	4.115	1.014	1.057	2.33**	4.412	4.283	1.014	1.015	1.02	4.283	4.115	1.015	1.057	1.31
Control Group	4.525	4.509	0.864	0.790	0.15	4.525	4.509	0.864	0.790	0.15	4.509	4.509	0.790	0.790	0.00
4. Treatment Group	1.542	1.321	0.797	0.797	2.25**	1.542	1.339	0.797	0.819	2.02*	1.339	1.321	0.819	0.797	0.18
Control Group	1.559	1.798	0.779	0.894	-2.17*	1.559	1.772	0.779	0.893	-1.93	1.772	1.798	0.893	0.894	-0.22
5. Treatment Group	2.183	1.817	1.135	1.051	2.71***	2.183	1.906	1.135	1.116	1.98*	1.906	1.817	1.116	1.051	0.66
Control Group	2.237	2.421	1.145	1.055	-1.27	2.237	2.386	1.145	1.125	-1.00	2.386	2.421	1.125	1.055	-0.24
6. Treatment Group	4.535	4.290	0.848	0.980	2.15*	4.535	4.425	0.848	0.939	0.98	4.425	4.290	0.939	0.980	1.13
Control Group	4.542	4.649	0.813	0.741	-1.05	4.542	4.509	0.813	0 901	0.32	4.509	4.649	0.801	0.741	-1.37
7. Treatment Group	4.155	3.672	0.905	1.019	4.05*****	4.155	3.937	0.905	0.833	2.01*	3.937	3.672	0.833	1.019	2.29**
Control Group	4.136	4.114	0.933	0.984	0.17	4.136	4.140	0.933	0.949	0.04	4.140	4.114	0.949	0.984	0.21
8. Treatment Group	4.093	3.786	0.972	1.130	2.35**	4.093	3.906	0.972	1.087	1.45	3.906	3.786	1.087	1.130	0.86
Control Group	4.119	4.114	0.971	0.919	0.04	4.119	4.114	0.971	0.984	-0.04	4.114	4.114	0.984	0.919	0.00
9. Treatment Group	3.473	2.985	1.105	1.286	3.32*****	3.437	3.323	1.105	1.168	1.06	3.323	2.985	1.168	1.265	2.23*
Control Group	3.534	3.518	1.043	1.075	0.12	3.534	3.554	1.043	1.021	-0.14	3.554	3.518	1.021	1.075	0.26
10. Treatment Group	1.752	1.481	0.919	0.817	2.51***	1.752	1.551	0.919	0.861	1.80	1.551	1.481	0.861	0.817	0.67
Control Group	1.737	1.974	0.910	0.926	-1.96*	1.737	1.851	0.910	0.961	-0.92	1.851	1.974	0.961	0.926	-0.98
11. Treatment Group	3.047	2.305	1.089	1.109	5.44*****	3.047	2.614	1.089	1.113	3.14****	2.614	2.305	1.113	1.109	2.23*
Control Group	3.000	3.096	1.086	1.081	-0.68	3.000	3.114	1.086	1.103	-0.79	3.114	3.096	1.103	1.081	0.12
12. Treatment Group	3.047	2.336	1.103	1.035	5.36*****	3.047	2.630	1.103	1.060	3.08****	2.630	2.336	1.060	1.035	2.25**
Control Group	3.009	2.965	1.098	1.072	0.31	3.008	2.956	1.098	1.084	0.37	2.956	2.965	1.084	1.072	-0.06

TABLE 4

1-Pretest
2-Postest
3 2 Year Follow-up
* p<.05
** p<.025
*** p<.01
**** p<.005
***** p<.001

Comparisons of Pre, Post, and Two Year Follow-Up Attitude Ratings of Sexual Behaviors for Others Within Treatment Group and Within Control Group.

Category of Sexual Behavior By Class	Pre/Follow-Up Differences					Pre/Post Differences					Post/Follow-Up Differences				
	M^1	M^3	SD^1	SD^3	F RATIO	M^1	M^2	SD^1	SD^2	F RATIO	M^2	M^3	SD^2	SD^3	F RATIO
1. Treatment Group	2.748	1.863	0.947	0.605	9.02*****	2.748	2.213	0.947	0.870	4.73*****	2.213	1.863	0.870	0.605	3.74*****
Control Group	2.763	3.167	0.893	0.986	-3.27*****	2.763	3.000	0.893	0.912	-2.00*	3.000	3.167	0.912	0.986	-1.32
2. Treatment Group	2.198	1.534	0.845	0.599	7.34*****	2.198	1.764	0.845	0.821	4.19*****	1.764	1.534	0.821	0.599	2.56***
Control Group	2.186	2.325	0.816	0.945	-1.19	2.186	2.237	1.816	0.905	-0.44	2.237	2.325	0.905	0.945	-0.72
3. Treatment Group	3.748	2.656	1.153	0.901	8.54*****	3.748	3.457	1.153	1.146	2.04*	3.457	2.656	1.146	0.901	6.22*****
Control Group	3.805	4.342	1.064	0.818	-4.32*****	3.805	3.061	1.064	0.980	-1.91	4.061	4.342	0.980	0.818	-2.35**
4. Treatment Group	1.542	1.237	0.726	0.509	3.94*****	1.542	1.402	0.726	0.829	1.45	1.402	1.237	0.829	0.509	1.92
Control Group	1.525	1.904	0.701	0.940	-3.46*****	1.525	1.763	0.701	0.813	-2.38**	1.763	1.904	0.813	0.940	-1.21
5. Treatment Group	2.137	1.542	0.959	0.682	5.79*****	2.137	1.787	0.959	0.923	2.99****	1.787	1.542	0.923	0.682	2.42***
Control Group	2.161	2.447	0.969	1.065	-2.14*	2.161	2.377	0.969	0.981	-1.69	2.377	2.447	0.981	1.065	-0.52
6. Treatment Group	3.915	2.786	1.068	0.744	9.87*****	3.915	3.559	1.068	1.103	2.62***	3.559	2.786	1.103	0.744	6.58*****
Control Group	3.890	4.518	1.011	0.833	-5.17*****	3.890	4.211	1.011	0.936	-2.51***	4.211	4.518	0.936	0.833	-2.62***
7. Treatment Group	3.736	2.450	0.996	0.767	11.65*****	3.736	3.315	0.996	1.029	3.33*****	3.315	2.450	1.029	0.767	7.63*****
Control Group	3.737	3.982	1.008	1.039	-1.82	3.737	3.763	1.008	0.998	-0.20	3.763	3.982	0.998	1.039	-1.63
8. Treatment Group	3.581	2.489	1.005	0.748	9.93*****	3.581	3.157	1.005	1.035	3.32*****	3.157	2.489	1.035	0.748	5.94*****
Control Group	3.576	4.000	1.025	0.991	-3.20****	3.576	3.702	1.025	1.038	-0.93	3.702	4.000	1.038	0.991	-2.21*
9. Treatment Group	3.000	2.191	0.992	0.756	7.39*****	3.000	2.724	0.992	0.965	2.25**	2.724	2.191	0.965	0.756	4.93*****
Control Group	3.008	3.368	0.974	1.024	-2.74***	3.008	3.184	0.974	1.001	-1.35	3.184	3.368	1.001	1.024	-1.37
10. Treatment Group	1.791	1.412	0.924	0.593	3.92*****	1.791	1.614	0.924	0.882	1.56	1.614	1.412	0.882	0.593	2.15*
Control Group	1.720	1.930	0.886	0.947	-1.74	1.720	1.825	0.886	0.914	-0.88	1.825	1.930	0.914	0.947	-0.85
11. Treatment Group	2.736	1.939	0.914	0.688	7.94*****	2.736	2.346	0.914	0.963	3.32*****	2.346	1.939	0.963	0.688	3.90*****
Control Group	2.703	2.939	0.890	0.980	-1.91	2.703	2.851	0.890	0.980	-1.20	2.851	2.939	0.980	0.980	-0.68
12. Treatment Group	2.798	2.015	0.930	0.656	7.83*****	2.798	2.449	0.930	0.915	3.03****	2.449	2.015	0.915	0.656	4.36*****
Control Group	2.780	2.912	0.916	1.001	-1.05	2.780	2.816	0.916	1.009	-0.29	2.816	2.912	1.009	1.001	-0.72

TABLE 5

Differences in Attitude Ratings of Sexual Behaviors For Self Between Males and Females, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	40.586	40.244 *****	18.821	17.958 *****	18.794	19.858 *****
2.	15.563	16.202 *****	6.520	5.834 **	2.076	2.104
3.	0.200	0.221	0.048	0.060	0.415	0.477
4.	10.193	18.130 *****	4.353	6.234 ***	2.868	4.138 *
5.	44.169	38.854 *****	30.585	26.968 *****	28.295	28.655 *****
6.	4.429	6.551 ***	0.262	0.343	0.825	1.082
7.	25.221	33.719 *****	12.451	16.733 *****	21.057	22.852 *****
8.	61.255	87.048 *****	53.222	61.447 *****	54.931	64.387 *****
9.	22.680	20.847 *****	32.814	30.337 *****	40.319	32.599 *****
10.	0.00	0.00	0.002	0.003	0.046	0.062
11.	11.110	9.676 ****	10.446	8.699 ****	12.713	10.923 *****
12.	2.992	2.449	0.058	0.050	1.926	1.732

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .005$
***** $p < .001$

TABLE 6

Differences in Attitude Ratings of Sexual Behaviors for Others Between Males and Females, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	5.908	7.180***	4.341	5.753**	6.366	10.908*****
2.	3.848	5.821**	3.084	4.321*	2.435	4.149*
3.	0.057	0.046	0.106	0.095	0.095	0.131
4.	0.627	1.223	0.754	1.113	0.767	1.424
5.	14.229	16.379*****	13.115	15.544*****	15.776	22.783*****
6.	3.075	2.809	1.418	1.358	0.834	1.378
7.	49.158	60.219*****	21.388	23.410*****	20.591	28.777*****
8.	44.775	52.000*****	27.437	29.107*****	29.429	47.538*****
9.	4.471	4.606*	13.995	15.665*****	15.192	21.171*****
10.	1.253	1.508	1.166	1.424	1.256	2.071
11.	2.404	2.947	5.261	5.650**	8.652	12.921*****
12.	1.527	1.780	0.347	1.382	0.115	0.166

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .005$
***** $p < .001$

TABLE 7

Differences in Attitude Ratings of Sexual Behaviors for Self Between Summer Session and Fall Semester Students, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	3.479	3.450	1.314	1.254	1.103	1.166
2.	6.122	6.374***	5.206	4.658*	3.541	3.590
3.	0.105	0.116	0.352	0.435	1.934	2.224
4.	7.060	12.558*****	7.015	10.048****	4.911	7.086***
5.	1.674	1.472	2.932	2.586	1.882	1.906
6.	1.632	2.413	1.701	2.225	0.009	0.012
7.	0.037	0.049	0.038	0.051	2.363	2.565
8.	0.018	0.026	0.076	0.087	3.732	4.375*
9.	0.272	0.250	1.379	1.275	0.177	0.143
10.	1.626	1.915	4.398	5.291**	4.159	5.556**
11.	0.063	0.055	2.219	1.848	1.448	1.244
12.	0.631	0.516	3.213	2.774	2.178	1.958

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .005$
***** $p < .001$

TABLE 8

Differences in Attitude Ratings of Sexual Behaviors for Others Between Summer Session and Fall Semester Students, Pre, Post, and Two Year Follow-up.

Categories of Sexual Behavior	Pretest		Post-test		Two Yr. Follow-up	
	Sum of Squares	F Ratio	Sum of Squares	F Ratio	Sum of Squares	F Ratio
1.	1.843	2.239	3.895	5.161**	6.875	11.779*****
2.	2.157	3.264	0.603	0.845	2.996	5.106**
3.	2.912	2.324	11.175	10.018****	7.832	10.833*****
4.	0.069	0.134	1.019	1.503	0.477	0.886
5.	2.273	2.617	0.229	0.271	2.201	3.179
6.	0.103	0.095	2.466	2.362	3.683	6.088***
7.	0.755	0.925	2.025	2.216	8.162	11.408*****
8.	0.433	0.503	0.011	0.011	2.009	3.246
9.	0.020	0.020	1.563	1.749	2.936	4.092*
10.	0.728	0.876	0.981	1.198	1.766	2.912
11.	0.253	0.310	0.921	0.989	1.471	2.197
12.	0.960	1.119	5.485	6.030***	4.405	6.362***

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .005$
***** $p < .001$